Incoming
M0490047
cc: Lynn
TAK
3727

Shaw Environmental, Inc.

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Denver, CO 80237
720.554.8202
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Shaw The Shaw Group Inc.™

June 30, 2010

Mr. Lynn Kunzler
State of Utah
Department of Natural Resources
Division of Oil, Gas, and Mining
1594 West North Temple
Suite 1210, Box 145801
Salt Lake City, UT 84114-5801

Re: Request for Permit Amendment and Change to Post Mining Land Use Designation
Eureka Mills Superfund Site
Permit No: M/049/047, Lime Peak Quarry

Mr. Kunzler:

This letter and the enclosed attachments constitute a request for permit amendment and change in post mining land use designation at the Lime Peak Quarry operated by Shaw Environmental, Inc. This letter follows our meeting at your offices on April 28, 2010.

As discussed at that meeting, upon completion of its work at the Eureka Mills Superfund Site the Environmental Protection Agency (EPA) intends to leave to the Town of Eureka, UT 20,000 cubic yards each of roadbase aggregate and topsoil for use by the City in order to implement future Institutional Controls.

To store those materials the EPA, on behalf of the town, approached Chief Consolidated Mining (Chief) to obtain an easement to an approximately 6.2 acre parcel of Chief property located in the rock processing area of Lime Peak Quarry. On June 9, 2010 a Grant of Easement executed by Chief in favor of the Town of Eureka was recorded by the Utah County Recorder.

As shown in the original Notice of Intent to Commence Large Mining Operations (NOI), Attachment 1 – Text, Part VII Rule R647-4-110 – Reclamation Plan, Section 110.2 – Reclamation of roads, highwalls, slopes, leachpads, dumps, etc., the entirety of the rock processing area was to have been reclaimed by the methods specified.

Because the portion of the rock processing area to which the town has been granted an easement will be used to store, handle, and dispense roadbase and topsoil materials it is requested that the future use designation of this area be changed from its current Limited grazing and Wildlife habitat designation to an Industrial Use designation.

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The submittals accompanying this cover letter include revised pages 5 and 14 (in redline/strikeout) to replace those original pages in the NOI, a revised Attachment I- Text to replace the original, two new Figures, Figure 8 and Figure 8a, to be added to Attachment II - Figures, and new Attachment VII – Variance to replace existing Attachment VII - Surety. A new cover page for Attachment VIII – Surety is also included. The content of the current Surety Attachment (Attachment VII) are to be moved to Attachment VIII.

Based on our discussion on April 28, Shaw understands it typically takes 2 to 3 weeks for UDOGM to provide approval/denial of the requested amendments. Shaw believes this submittal is complete and that no additional information will be required. If this proves incorrect please advise as soon as possible in order that we maintain the schedule discussed on April 28.

Sincerely,

Gary D. Parks P.G.
Project Manager

cc: Joe Shield (HDR)
Mary Darling (USACE)
Paula Schmittdiel (USEPA)
file

Form MR-REV-att (DOGM – Revise/Amend Change Form)
(Revised September 14, 2005)

Application for Mineral Mine Plan Revision or Amendment

Operator: Shaw Environmental Inc.

Mine Name: Lime Peak Quarry File Number: M/049 /047

Provide a detailed listing of all changes to the mining and reclamation plan that will be required as a result of this change. Individually list all maps and drawings that are to be added, replaced, or removed from the plan. Include changes of the table of contents, section of the plan, pages, or other information as needed to specifically locate, identify and revise or amend the existing Mining and Reclamation Plan. Include page, section and drawing numbers as part of the description.

DETAILED SCHEDULE OF CHANGES TO THE MINING AND RECLAMATION PLAN

			DESCRIPTION OF MAP, TEXT, OR MATERIALS TO BE CHANGED
☐ ADD	☒ REPLACE	☐ REMOVE	Existing pages 5 and 14 of the Notice of Intent.
☐ ADD	☒ REPLACE	☐ REMOVE	Existing Attachment I with revised Attachment I.
☒ ADD	☐ REPLACE	☐ REMOVE	New Figure 8 to Attachment II.
☒ ADD	☐ REPLACE	☐ REMOVE	New Figure 8a to Attachment II.
☐ ADD	☒ REPLACE	☐ REMOVE	Existing Attachment VII - Surety with new Attachment VII - Variance.
☒ ADD	☐ REPLACE	☐ REMOVE	New Attachment VIII - Surety cover page.
☐ ADD	☐ REPLACE	☐ REMOVE	
☐ ADD	☐ REPLACE	☐ REMOVE	
☐ ADD	☐ REPLACE	☐ REMOVE	
☐ ADD	☐ REPLACE	☐ REMOVE	
☐ ADD	☐ REPLACE	☐ REMOVE	
☐ ADD	☐ REPLACE	☐ REMOVE	
☐ ADD	☐ REPLACE	☐ REMOVE	

I hereby certify that I am a responsible official of the applicant and that the information contained in this application is true and correct to the best of my information and belief in all respects with the laws of Utah in reference to commitments and obligations, herein.

Alan Solow for L. Joe Boyer
Print Name

Alan Solow, Sr. VP, For L. Joe Boyer
Sign Name, Position

7-1-2010
Date

Return to:

State of Utah
Department of Natural Resources
Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801
Phone: (801) 538-5291 Fax: (801) 359-3940

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FOR DOGM USE ONLY:
File #: M/ /
Approved:
Bond Adjustment: from ($)
to $

105.3 -Additional Maps

Reclamation Treatments Map Checklist

Please check off each section to verity these features are included on the map(s) or explain why it is not applicable. Please add the map identification name or number which shows these features.

Check		Map ID
✓	(a) Areas of the site to receive various reclamation treatments shaded, cross hatched or color coded to identify which reclamation treatments will be applied. Areas would include: buildings, stationary mining/processing equipment, roads, utilities, proposed drainage improvements or reconstruction, and sediment control structures, topsoil storage areas, waste dumps, tailings or processed waste facilities, disposal areas for overburden, solid and liquid wastes, ponds, and wastewater discharge, treatment and containment facilities. Reclamation treatments may include ripping, regrading, replacing soil, fertilizing, mulching, broadcast seeding, drill seeding, and hydroseeding:	Figures 4
✓	(b) A border clearly outlining the extent of the area to be reclaimed after mining, the number of acres disturbed, and the number of acres proposed for reclamation:	Figure 4
✓	(c) Areas disturbed by this operation which are included in a request for a variance from the reclamation standards:	Figures 8 and 8a
✓	(d) Highwalls which are proposed to remain steeper than 45 degrees and slopes which are proposed to remain steeper than 3 horizontal : 1 vertical.	Figure 4

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Note: Areas included in sections c & d will need to be referenced in the variance request section. Please shade or color code these areas on this map.

Additional maps and cross sections may be required in accordance with Rule R647-4-105.3, Design drawings and typical cross-sections for each tailings pond, sediment pond, or other major drainage control structures must also be included.

Refer to Figure 5 for cross-sections of the fueling pad. Figure 6 for a cross-section of the roads to be constructed, and Figure 7 for cross-sections of the quarry waste pile.

III. Rule R647-4-106 - Operation Plan

106.1 - Mineral(s) to be mined: Rock Aggregates (lime stone)

106.2 -Type of Operation Conducted: see Attachment I -Text, page two

Describe the typical methods and procedures to be used in mining operations, on-site processing and concurrent reclamation. Include equipment descriptions where appropriate.

f) Other Revegetation Procedures

Please describe other reclamation procedures, such as mulching, biosolids application, irrigation, hydroseeding, etc., that may be planned.

VIII. Rule R647-4-112 VARIANCE See Attachment VII - Variance

Deleted:

The Permittee / Operator may request a variance from Rules R647-4-107 (Operation Practices), R647-4-108 (Hole Plugging), and R647-4-111 (Reclamation Practices) by submitting the following information:

1.1 1 the rule(s) which a variance is requested from; (rule number and content)

1.12 a description of the specific variance requested and a description of the area affected by the variance request; show this area on the Reclamation Treatments Map(s).

1 .I3 justification for the variance;

1.14 alternate methods or measures to be utilized in the variance area.

Variance requests are considered on a site-specific basis. For each variance requested, attach a narrative which addresses the four items listed above.

IX. Rule R647-4-113 – SURETY See Attachment VIII -Surety

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A Reclamation surety must be provided to the Division prior to final approval of this application. In calculating this amount, include the following major tasks:

1) Clean-up and removal of structures.
2) Backfilling, grading and contouring.
3) Soil material redistribution and stabilization.
4) Revegetation (preparation, seeding, mulching).
5) Safety gates, berms, barriers, signs, etc.
6) Demolition, removal or burial of facilities/structures, regrading/ripping of facilities areas.
7) Regrading, ripping of waste dump tops and slopes.
8) Regrading/ripping stockpiles, pads and other compacted areas.
9) Ripping pit floors and access roads.
10) Drainage reconstruction.
11) Mulching, fertilizing and seeding the affected areas.
12) General site clean up and removal of trash and debris.
13) Removal/disposal of hazardous materials.
14) Equipment mobilization.
15) Supervision during reclamation.

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Attachment I

I. Rule R647-4-104 - Operator(s), Surface and Mineral Owners

5. Location of Operation:
County: Utah County

Portions of: the west 1/2 of the southwest 1/4 of section 4; the east 1/2 of the southeast 1/4 of the southeast 1/4 of section 5; and the northeast 1/4 of the northeast 1/4, the northwest 1/4 of the southeast 1/4 of the northeast 1/4, the northeast 1/4 of the southwest 1/4 of the northeast 1/4, and the east 1/2 of the northwest 1/4 of the northeast 1/4 of section 8, Township 10 South, Range 2 West, SLBM, Utah County, UT

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III. Rule R647-4-106 – Operation Plan

Describe the typical methods and procedures to be used in mining operations, on-site processing and concurrent reclamation. Include equipment descriptions where appropriate.

106.2 - Type of Operation Conducted:

In general, the operations will include blasting of rock in the quarry area, hauling of blasted materials to the rock processing area, crushing and screening of rock in the rock processing area, and storage of aggregate products in the rock storage area. The following paragraphs provide more detailed descriptions of the activities.

Quarry Operations: The purpose of the quarry operations is to extract rock suitable for use as aggregates for the Eureka Mills Superfund Site. Rock will be extracted through blasting. All blasting will be conducted by an individual certified in accordance with Utah Administrative Rule R645-105. Blasting explosives will be placed in 12-40 foot deep holes drilled in the rock material using a mobile drill rig. After blasting, the loose rock will be inspected by a geologist, registered as a professional in the State of Utah and experienced in the rock formations present at Lime Peak. The purpose of the inspection will be to determine the formation of the loose rock and to provide a visual examination of the rock quality and suitability. Material determined to be unsuitable will be considered waste material. Based on previous quarrying operations at the Lime Peak Quarry, it is estimated that less than 1% of the blasted material will be waste rock. Unsuitable materials will be removed and placed in waste areas. Unsuitable material will consist of minerization zones, which may contain high concentrations of arsenic, or material of poor quality, based on visual examination. Suitable material will be bulldozed to loading areas. At loading areas, wheel loaders will place the material into 20 to 30 ton off-road rock trucks, which will transport the material to the rock processing area.

Rock Processing Operations: At the rock processing area, loose rock will be crushed and sorted using a rock crusher and sieves, arranged to produce the material specifications. As materials are produced, there will be located at various locations within the rock storage area. Transport trucks will intermittently arrive at the rock storage area to be loaded with the aggregates for transport to the project site.

Other Site Facilities: Dust will be controlled through the use of water and an aqueous solution of magnesium chloride. A water tower will be established at the rock storage area to fill water trucks. A fueling station will also be established in the rock storage area. All truck and construction equipment fueling operations will occur within the fueling station. The fueling station will be lined with 40 mil geomembrane and a berm will be constructed to contain, at a minimum, the volume of any fixed fuel containers located in the fueling station or the volume of fueling trucks used, whichever is greater.

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106.4 – Nature of material including waste rock/overburden and estimated tonnage

Describe the typical annual amount of the ore and waste rock/overburden to be generated, in cubic yards. Where does the waste material originate? What is the nature of the overburden/wastes (general chemistry/mineralogy and description of geologic origin)? Will it be in the form of fines or coarse material? What are the typical particle size and size fractions of the waste rock?

The average annual volume of usable material to be produced is estimated to be 120,000 cubic yards. It is estimated that less than 1% of the material quarried will be waste. Material to be wasted will include areas that have been mineralized along a fault line, resulting in the potential for relatively high concentration of metals, which is undesirable. These areas will be avoided. During the quarry operations, a registered professional geologist, familiar with the rock formations in this area, will be on-site monitoring the quality of the blasted material. Material that appears to be unsuitable, due to mineralization or other visible defects, will be considered waste. It is anticipated that this waste will be coarse material with some fines, although it is not possible to predict the gradation of the waste at this time.

Usable material will be transported to the processing area. At the processing area, several aggregate products will be produced, with specific gradation requirements. It is anticipated that a portion of the fines generated during the processing operation will not be used in the products and placed in a pile. However, it is anticipated that this material will be used during the project, either as select fill or as fill in areas where out of spec material is acceptable for use.

As described in Section 106.5, overburden soils in the quarry area are a very cobbly to stony loam, with a thickness of 10-20 inches. Due to the steep and rugged terrain in the undisturbed areas of the quarry, it is not practical to strip and segregate the overburden. During quarrying, the overburden will be incorporated into the quarried material and transported to the processing material, and use for the project.

The predominant formation to be quarried is the Gardison Formation, a medium to dark gray fossiliferous limestone and dolomite known to be about 450 feet thick. At the bottom of the quarry, the lower contact of the Gardison rests atop the Fitchville Formation, a gray massive dolomite 150 feet thick. The limestone and dolomite in the Eureka area are part of more than 6000 feet of Mississippian deposits (320-360 million years old) that accumulated in the Oquirrh Basin in the northwest corner of Utah. Bedding in the pit face appears to dip shallowly (10-30°) to the north-northwest.

Refer to Attachment III for additional information regarding the mineralized fault line at Lime Peak Quarry.

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106.5 – Existing soil types, location of plant growth material

Specific information on existing soils to be disturbed by mining will be required. General soils information may not be sufficient.

Provide specific descriptions of the existing soil resources found in the area. Soil types should be identified along with depth and extent, especially those to be directly impacted by mining.

One pit per soil type was excavated. Soil was evaluated and field verified with the description in the Soil Survey of Fairfield-Nephi Area Utah, Parts of Juab, Sanpete and Utah Counties, Soil Conservation Service (SCS), 1984. Field verification of soils appeared consistent with the SCS soil survey. Note that according to the SCS map, the primary soils within the rock processing are Pits and Dumps (PK). Although classified as PK, this material is Deer Creek cobbly loam which was disturbed to create windrow berms for the railroad grade directly to the east.

Soil Descriptions

Soil Pit Number 01

RkF
RkF-Rock outcrop-Lundy complex 30-70 percent slopes. This soil type is on mountainside and hillsides, ratio is approximately 70% rock outcrop and 30% very cobbly to stony loams. Slopes are long and convex. Vegetation is predominantly grasses and shrubs. Soil is shallow somewhat excessively drained, formed from colluvium and residuum derived dominantly from limestone and sandstone. Typical surface layer is very dark brown cobbly loam six (6) inches thick. Underlying material is pale brown very cobbly loam about thirteen (13) inches thick. Limestone is found at about 19 inches, but depth ranges from 10 to 20 inches. Permeability is moderate. Available water capacity is 1-2 inches. Water supplying capacity is 2-4 inches. Effective rooting depth is 10-20 inches. Hazard of water erosion is slight. Soil unit is suitable for wildlife habitat. Important plant species are bluebunch wheatgrass, Utah juniper Indian ricegrass, and black sagebrush.

(a)

Depth of soil material	A horizon 0-4 inches, B horizon 4-20 inches
Volume (for stockpiling)	None
Texture (field determination)	Loam
pH (field determination)	7.6

Soil Pit Number 02

LeF
LeF-Lundy-Rock outcrop complex 30-70 percent slopes. This map unit is on mountainsides and hillsides with long convex slopes. Typical vegetation is grasses and shrubs. Lundy soil is derived from limestone and sandstone, shallow and somewhat excessively drained. Surface layer is dark brown very cobbly loam about 6 inches thick. Underlying material is pale brown about 13 inches thick. Limestone is found at about 19 inches, but depth ranges from 10 to 20 inches. Permeability is moderate, available water is about 1-2 inches. Water supplying capacity is 2-4 inches effective rooting depth is 10-20 inches. Runoff is medium; hazard of water erosion is slight. This soil unit is used mainly for rangeland and wildlife habitat. Potential plant community composition is

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typically about 65% grasses, 3% forbs 7% shrubs and 25% trees. This unit is poorly suited to recreational uses and home site development. Main limitations are slope, stoniness, shallow depth to bedrock and rock outcrops. Important plant species are bluebunch wheatgrass, Utah juniper, Indian ricegrass, and black sagebrush.

Depth of soil material	A horizon 0-4.5 inches, B horizon 4.5-13.5 inches
Volume (for stockpiling)	None
Texture (field determination)	Loam
pH (field determination)	7.6

Soil Pit Number 3

DbD

Very deep well drained soil on alluvial fans derived mainly quartzite, sandstone and igneous rocks. Slopes are long convex or concave. Vegetation is mainly grasses and shrubs. Surface layer is dark brown cobbly loam about 7 inches thick. Subsoil is yellowish brown cobbly clay loam about 28 inches thick. Available water capacity is about 6-8.5 inches. Water supplying capacity is 9.5-11 inches Effective rooting depth is 60 inches or more. Runoff is medium and hazard of water erosion is slight. Potential plant community on this soil is about 65% perennial grasses, 15% forbs, and 20% shrubs. This soil is suited for range seeding. Main limitations are slope and content of rock fragments. Plants suitable for seeding include Whitmar wheatgrass slender wheatgrass, antelope bitterbrush and species of the potential plant community for which seed or stock is available.

Depth of soil material	A horizon 0-4 inches, B horizon 4-27 inches
Volume (for stockpiling)	12,250 cubic yards
Texture (field determination)	Loam
pH (field determination)	6.9

(b) See Attachment IV for a map showing the location of samples, a Soil Map showing the SCS soil survey types, and a spreadsheet containing lab analysis results.

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Attachment I

106.6 - Plan for protecting and redepositing existing soils

Describe how topsoil or subsoil material will be removed, stockpiled and protected.

In the processing area, five acres of the proposed 12.6 acres has been stripped of usable soil from previous borrow operations completed in 2001 and 2002 by the U. S. Environmental Protection Agency. From this area, approximately 2000 cubic yards of topsoil material was stripped and remains on-site, on the south end of the processing area. From the remaining 7.6 acres, 12 inches of topsoil will be stripped prior to use. This material will stockpiled on the north end of the processing area. The topsoil will be stripped through the use of a bulldozer. A soil berm, one to two feet in height, will surround the soil stockpile to prevent loss of material through erosion from runoff. The stockpile will be seeded with a quick-growing seed mix to deter erosion. The following seed mix will be used:

Species	Variety	PLS Pounds per Acre
Crested wheatgrass	Nordan	3
Streambank wheatgrass	Sodar	3
Sheep Fescue	Black Sheep	0.75
Smooth brome	Lincoln	3
Great Basin Wildrye	VNS	3
Perennial ryegrass	Linn	1.5
Indian ryegrass	Nezpar	3
Total		17.25

These species are quick growing, will provide the requisite 5 years of cover, and will not require any water other than natural precipitation. The 17.25 lbs. per acre is the broadcast seeding rate. Broadcast seeding will be completed using a spin spreader or hand casting.

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Attachment I

106.7 – Existing vegetative communities to establish revegetation success

Vegetation – The Permittee / Operator is required to return the land to a useful condition and reestablish at least 70 percent of the premining vegetation ground cover.

Provide the Division with a description of the plant communities growing onsite and the percent vegetation cover for each plant community located on the site. Describe the methodology used to obtain these values.

(a)

Vegetation Survey

Sampling methods used: A single transect was located within each community type that was proposed to be disturbed. Refer to the figure in Attachment IV for the location of the transects. For relocation purposes the transect start and end points were marked by GPS and a 3/8ths inches pieces of rebar was placed at each end of each transect. The rebar facilitated securing the tape in place for accurate placement of one meter square frames.

A one hundred meter tape was stretched between the start and end points. A one meter square frame was placed on alternating sides of the straightened tape. An example of the transect layout is in Attachment V. The first one meter square frame was placed on the right side of the tape at the zero (0) point. The second frame was placed on the left side of the tape at the two (2) meter mark, and so on. A modified Daubenmire cover class estimation system was employed (Daubenmire 1959, A Canopy Coverage Method of Vegetation Analysis. Northwest Science 33:43-66) to rapidly assess the percentages of ground cover of vegetation, bare ground, rock and litter.

(b)

Photographs representative of the vegetation found within each transect are in Attachment V.

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106.8 - Depth to groundwater, overburden material & geologic setting

Describe the approximate depth to groundwater in the vicinity of the operation based on the completion of any monitoring or water wells in the area. Please show the location of these wells on the base map.

As can be seen on Figure 1, there are three wells near the rock processing area. Each of these wells supply water for the City of Eureka Public Drinking Water System. According to the City of Eureka Drinking Water Source Protection Plan, the average depth to groundwater in this area is 12 feet below ground surface.

The quarry area is on the side of a mountain, at an elevation of approximately 6600-6700 feet, approximately 400-500 feet above the base of the mountain. It is difficult to predict groundwater depth at the quarry, but based on previous quarrying completed at the site and its location, it is unlikely that groundwater will be encountered.

Depth to groundwater 12 ft.

Provide a narrative description of the geology of the area and/or a geologic cross section.

Refer to Section 106.4 for a description of the geology in the quarry area.

Information on the geology of the rock processing area is based on information contained in the City of Eureka Drinking Water Source Protection Plan, which in turn is based on the Well Driller Reports for the Doliner, Blue Rock, and Eureka Hill wells as well as *Geology Of The Eureka Quadrangle, Utah And Juab Counties*, Morris, HT, Utah, 1964 (Geological Survey Bulletin 1142-K).

Bulletin 1142-K indicates that surface material in this area consist of "younger alluvium"; however, each of the Well Driller Reports indicate that the wells were drilled "all in Packard Rhyolite. For this reason, it is believed that the alluvium is quite shallow, likely less than 5 feet in thickness. Packard Rhyolite is a Packard quartz latite, which is a Tertiary tuff, lava, vitrophyre and flow breccia. Bulletin 1142 K describes vitrophyre, flow rocks and tuffs as follows:

Vitrophyre	gray to black, phenocrysts broken
Flow Rocks	pinkish or blueish gray, medium grained, porphyritic, contains andesine, quartz, and biotite
Tuffs	light-colored, fine grained, vitric, and lithic

The City of Eureka Drinking Water Source Protection Plan provides the following estimates of the aquifer characteristics for this area:

Hydraulic Conductivity	1.5 ft/day
Transmissivity	50 ft^2/day
Hydraulic gradient	0.0653 ft/ft

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106.9 - Location and size of ore and waste stockpiles, tailings and treatment ponds, and discharges

Describe the location and size of any proposed waste/overburden dumps, stockpiles, tailings facilities and water storage or treatment ponds.

Waste rock will be left in the quarry area, in areas that have been disturbed by previous quarry operations. Based on an estimate of 10% or the rock blasted being waste, approximately 60,000 cubic yards of waste will be generated.

There will be no tailing, water storage, or treatment ponds.

Describe how overburden material will be removed and stockpiled.

Refer to Section 106.6.

Describe how tailings, waste rock, rejected materials, etc. will be disposed of.

Waste rock will be placed in a manner to provide stable slopes in the quarry area. Slopes will be 3H to 1V or flatter.

Describe the acreage and capacity of waste dumps, tailings ponds and water storage ponds to be constructed. All impoundments must include the necessary hydrologic calculations to determine if they are adequately sized to handle storm events.

There is approximately 8.8 acres in the quarry area and potentially all of this area will be used for the waste rock. There will be no tailings ponds, water storage ponds or impoundments for this operation.

Describe any proposed effluent discharge points (UPDES) and show their location on the surface facilities map. Give the proposed discharge rate and expected water quality. Attach chemical analyses of such discharge if available.

Not applicable to this operation.

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IV. R647-4-107 - Operation Practices

During operations, the Permittee / Operator shall conform to the practices listed under this section of the Minerals Rules unless the Division grants a variance in writing.

Describe measures taken to minimize hazards to public safety during mining operations regarding:

the closing or guarding of shafts and tunnels to prevent unauthorized or accidental entry in accordance with MSHA regulations;

There will be no tunnels or shafts created by this operation. To our knowledge, there are no existing tunnels or shafts within the proposed permitted area. Should abandoned tunnels or shafts be discovered, they shall be effectively closed or fenced off to prevent entry. In addition, appropriate danger signs shall be posted.

the disposal of trash, scrap metal, wood and extraneous debris;

It is not expected that trash, scrap metal, wool or extraneous debris will be generated from the planned operation. Miscellaneous trash that may be generated will be transported from the site on a daily basis.

the plugging or capping of drill, core or other exploratory holes;

It is not planned to drill any holes other than those used for blasting. Should any holes be drilled that are not used for blasting, they shall be plugged in accordance with Utah Administrative Rule R647-4-108. Hole Plugging Requirements. Specifically, drill holes shall be properly plugged as soon as practical and shall not be left unplugged for more than 30 days without approval of the UDOGM. Proper plugging shall include setting a nonmetallic permaplug at a minimum of five (5) feet below the surface, or returning the cuttings to the hole and tamping the returned cuttings to within five (5) feet of ground level. The hole above the permaplug or tamped cuttings will be filled with a cement plug.

the posting of appropriate warning signs in locations of public access to operations;

Warning signs will be posted along the Lime Peak Quarry Site perimeter fencing. These will be standard OSHA approved Warning signs informing the public that only authorized personnel are allowed beyond this point. In addition to the perimeter fencing signs, additional signs will be placed on each gated entrance to the site.

In addition to the restricted access warning discussed above, signage in the proximity of overhead power transmission lines will be placed. These will be to warn authorized personnel of the restricted heights and energy hazards present.

the construction of berms, fences or barriers above highwalls or other excavations.

All excavations or highwalls will be located at the quarry operation area. Due to its location, near the top of a mountain, the rugged terrain and private ownership of the land, fences, berms or barriers are not planned.

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If any of these safety measures are unnecessary, please explain why.

Describe measures taken to avoid or minimize environmental damages to natural drainage channels which will be affected by this mining operation.

Since the operations planned do not use water except for dust control, the potential for environmental damages to natural drainage ways is not anticipated. As an erosion control measure, a rock check dam will be placed in a dry channel downgradient of the proposed permitted area.

Describe measures taken to control and minimize sediment and erosion on areas affected by this mining operation. Describe measures being taken to prevent sediment from leaving the disturbed area.

The Lime Peak Quarry Stormwater Pollution Prevention Plan (SWPPP) will be implemented to control and minimize sediment loss and erosion. The SWPPP outlines the techniques that will be used including the strategic use of Best Management Practices (BMPs), inspections, and employee training. In addition, as described in the SWPPP, soil berms and rock check dams will be constructed in strategic locations to prevent the loss of sediment from the site.

Identify any potentially deleterious materials that may be stored on site (including fuel, oil, processing chemicals, etc.) and describe how they will be handled and stored.

Fuel may be stored on site for the construction equipment or fueling trucks may be used. A fueling station will be established in the rock processing area. This station will be constructed in a way to contain all potential spills within a bermed area which will be lined with 40 mil geomembrane. The bermed area will contain at least 110% of the volume of any fixed field containers and the volume of fueling trucks used. All truck and construction equipment fueling operations will occur within the fueling station.

Describe the measures taken to salvage and store soils to be used in reclamation.

In the processing area, five acres of the proposed 12.6 acres has been stripped of usable soil from previous borrow operations completed in 2001 and 2002. From the remaining 7.6 acres, 12 inches of topsoil will be stripped prior to use. This material will stockpiled on the north end of the processing area. The topsoil will be stripped through the use of a bulldozer.

Describe how stockpiled topsoil will be protected from erosion and further impact.

A soil berm, one to two feet in height, will surround the soil stockpile to prevent loss of material through erosion from runoff. The stockpile will be periodically sprayed with an aqueous solution of magnesium chloride to prevent erosion from wind.

Please describe any reclamation to be done during active mining operations prior to final closure. Reference these areas on a map.

As waste rock is generated during operations, it will remain in the quarry operations area. Areas that have been previously disturbed in the quarry area (refer to Figure 2) will be used to place waste rock. The rock will be placed such that slopes are 3H:1V or flatter. In addition, at the end of each year's blasting, highwalls will be 1H:1V or flatter.

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V. Rule R647-108 - Hole Plugging Requirements

> *All drill holes which will not eventually be consumed by mining must be plugged according to the methods listed in this section. Describe the location of any aquifers encountered by drilling and the method to be used to plug such water containing holes. Describe the method to be used for plugging holes not containing water.*

Drilled of holes will occur in the quarry operations area. As described in Section 106.8, there is a low potential for intersecting the groundwater surface in this area.

It is not planned to drill any holes other than those used for blasting. Should any holes be drilled that are not consumed by blasting, they shall be plugged in accordance with Utah Administrative Rule R647-4-108. Hole Plugging Requirements. Specifically, drill holes shall be properly plugged as soon as practical and shall not be left unplugged for more than 30 days without approval of the UDOGM. Proper plugging shall include setting a nonmetallic permaplug at a minimum of five (5) feet below the surface, or returning the cuttings to the hole and tamping the returned cuttings to within five (5) feet of ground level. The hole above the permaplug or tamped cuttings will be filled with a cement plug.

Should holes that contain water and require plugging be encountered, the entire depth of the hole shall be filled from the bottom up (through the drill stem) with a high grade bentonite/water slurry mixture. The slurry shall have a Marsh funnel viscosity of at least 50 seconds per quart prior to the adding of any cuttings.

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VI. Rule R647-109-Impact Statement

109.1 Surface and groundwater systems

Describe impacts to surface or groundwater which could be caused by this mining operation. Describe how these impacts will be monitored and mitigated. The appropriate groundwater and storm water control permits need to be obtained from the Division of Water Quality. Please reference any such permits.

Construction activities will disturb ground in the processing area, access roads and in the lime peak quarry. These activities have the potential to mobilize sediments into storm water and create dust that can settle into and pollute surface waters. To minimize and mitigate these pollutants, Best Management Practices (BMPs) will be implemented. Stormwater will be monitored, records will be kept, and BMPs will be implemented in accordance with the Surface Water Pollution Prevention Plan (SWPPP). The SWPPP was prepared as part of the multisector general permit. Amongst the BMPs proposed are silt fence, stabilized construction entrance, water for dust control, seeding, compaction, and preservation of existing vegetation.

Operational activities will disturb ground in the lime peak quarry only. The SWPPP addresses monitoring and mitigation of all operational activities, including those around the construction roads and processing area.

Risk of pollution to groundwater is considered low. This project proposes using the Eureka Hill well, located just west of the rock processing and storage area. The Eureka Hill well is being utilized solely for water, which will be stored in a 10,000 gallon water tank onsite, for dust control to minimize potential stormwater pollutants. Vehicle washing and other maintenance activities will be performed at the storage yard in the City of Eureka. Operation of the Eureka Hill well is automated by pressure indicator. A manual override of the automated process can be implemented for shutdown if required.

For storm water purposes, three permits were acquired from the Utah Division of Water Quality (UDEQ). These permits are as follows:

- Construction Activities permit for expansion of the processing area and road construction. (UTR104058)
- Construction Activities permit for mineral mining in the blasting area and road construction. (UTR104057)
- Multisector General Permit for operation of mining operation. (UTR 000686)

For ground water purposes, permits were not required. The dry mining operation that the project proposes will present "de minimus" potential to cause pollution of waters of the state, and so would qualify for "permit by rule" status under the Ground Water Protection Regulations (UAC R317-6-6.2). A statement to this effect was issued March 8, 2005, by Rob Herbert, P.G., Manager, Groundwater Protection Section, UDEQ.

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109.2 – Wildlife Habitat and Endangered Species

Describe the impacts on wildlife habitat associated with this operation. Describe any impacts to big game species found in the area. Describe any impacts to riparian areas. Describe any impacts this operation will have on waterfowl (fly-over, temporary resident or permanent resident). List any threatened or endangered wildlife species found in the area. Describe impacts to threatened or endangered species and their habitats. Describe measures to be taken to minimize or mitigate any impacts to wildlife or endangered specifies

Wildlife Habitat

Wildlife habitat found within the project vicinity consists mainly of sagebrush grasslands on gentle slopes. As the topography becomes somewhat steeper near Lime Peak, there is the inclusion of the occasional pinyon pine or Utah juniper. The main wildlife usage in this area consists of cotton-tail rabbits, several species of rodents, and deer. There are also associated predators that prey upon these species. These predators may include the occasional coyote, bobcat, badger, and raptor.

Due to the vast extent of this typical habitat in the vicinity of the project, county, and state, no negative impacts are anticipated to any species of wildlife individuals or their habitats. This area is not known to be designated as critical big game habitat.

There are no surface waters in the vicinity of the proposed project. There will be no impacts to any riparian areas. This area does not provide any suitable habitat for waterfowl either temporary or permanent residents. No impacts to migratory waterfowl are anticipated from this mine expansion.

Threatened and Endangered Species

This proposed project occurs entirely within Utah County, Utah. The Federally listed threatened and endangered species and their status are found below. This list is for Utah County only.

Common Name	Scientific Name	Status
Ute ladies' –tresses	*Spiranthes diluvialis*	T
Deseret Milkvetch	*Astragalus desereticus*	T
Clay Phacelia	*Phacelia argillacea*	E
Utah Valvata Snail – Historically	*Valvata utahensis*	E
June Sucker	*Chasmistes liorus*	E
Bald eagle	*Haliaeetus leucocephalus*	T
Yellow-billed Cuckoo	*Coccyzus americanus*	C
Brown (Grizzly) Bear – Historically	*Ursus arctos*	T Extirpated
Canada Lynx – Possibly	*Lynx candadensis*	T

T = Threatened
E = Endangered
C = Candidate (for future listing)

The proposed project area does not provide habitat for any of these federally listed species. None of these species have been identified on site or in surrounding habitats. Mitigation for impacts to federally listed individuals or their habitats is not anticipated.

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109.3 – Existing Soil and Plant Resources

Describe impacts to the existing soil and plant resources in the area to be affected by mining operations. Describe impacts to riparian or wetland areas which will be affected by mining. Describe impacts to threatened or endangered plant species. Describe measures to be taken to minimize or mitigate any impacts to soil and plant resources.

Soil Resources

Soil and vegetation resources found within the proposed project vicinity are quite typical of the area. Soils are typically suited only for wildlife habitat, due to stoniness, slope, shallow depth to bedrock, and shrink swell potential. Vegetation species found are very typical of the vicinity and county.

There are no riparian or wetland areas found within the proposed project footprint. There is one ephemeral drainage found south of the access road. This drainage will not be directly affected by any of the proposed mining activities. It is anticipated that no additional mitigation measures will be taken beyond standard best management practices to prevent excessive sediment transport off-site and into this ephemeral drainage.

Plant Resources

There are three federally listed plant species noted for Utah County. These three species and their federal status are listed below.

Common Name	Scientific Name	Status
Ute ladies' –tresses	*Spiranthes diluvialis*	T
Deseret Milkvetch	*Astragalus desereticus*	T
Clay Phacelia	*Phacelia argillacea*	E

T = Threatened
E = Endangered
C = Candidate (for future listing)

The proposed project footprint does not impact areas known to support habitat for any of these three listed species. No mitigation measures are anticipated to protect or compensate for impacts to any threatened or endangered plant species.

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109.4 – Slope stability, erosion control, air quality, public health & safety

Describe the impacts this mining operation will have on slope stability, erosion, air quality, public health and safety. Include descriptions of highwall and slope configurations and their stability. Air quality permits from the Utah Division of Air Quality may be required for mining operations. Please reference any such permits. Describe measures to be taken to minimize or mitigate impacts to slope stability, erosion, air quality, or public health and safety.

This operation will have a positive impact on slope stability because currently high walls with slopes of greater than 1H: 1V exist. In accordance with UDOGM requirements, the maximum highwall slope after reclamation will be 1H: 1V.

Construction activities will disturb ground in the processing area, access roads and in the lime peak quarry. These activities increase the potential for erosion from rainwater and wind. To minimize and mitigate the potential for erosion from rainwater, Best Management Practices (BMPs) will be implemented. Stormwater will be monitored, records will be kept, and BMPs will be implemented in accordance with the Surface Water Pollution Prevention Plan (SWPPP). Amongst the BMPs proposed are silt fence, stabilized construction entrance, water for dust control, seeding, compaction, and preservation of existing vegetation. To minimize and mitigate the potential for erosion from rainwater wind, requirements of the Eureka Mills Superfund Site Dust Control Plan will be applied to the proposed area to be permitted. These include a requirement for no visible emissions from the work area. Dust control will be accomplished through application of water and the application of an aqueous solution of magnesium chloride. In addition, all quarry operators will be required to hold a valid Air Quality Permit from the Utah Division of Air Quality. The current operator holds an Air Quality Permit Number DAQE 105596 issued by the Utah Department of Environmental Quality, Division of Air Quality.

The use of explosives and conducting constructions activities has the potential for creating public hazards. To mitigate these hazards, access to the proposed permit area and posting of warning signs will be implemented. Personnel working within the proposed permitted area will be required to have current Mine Safety and Health Training required by the Mine Safety Health and Safety Administration (MSHA). Implementation and monitoring of these requirements, will be the responsible of the Site Safety and Health Officer (SSHO) for the Eureka Mills Superfund Site. Applicable health and safety requirements of MSHA, OSHA and the US Army Corps of Engineers Safety and Health Requirements Manual (ME 385-1-1, November 2003) will be implemented and compliance of these requirements will be monitored by the SSHO.

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VII. Rule R647-4-110 - RECLAMATION PLAN

110.1 - Current land use and postmining land use

Current or premining land use(s) [other than mining]:

It does not appear that the land has ever been used for other than mining purposes.

List future post-mine land-use(s) proposed:

- Limited grazing
- Wildlife habitat
- Industrial use (see Figures 5 and 5a in Attachment 2 and Attachment 6)

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110.2 - Reclamation of roads, highwalls, slopes, leach pads, dumps, etc.

Describe how the following features will be reclaimed: roads, highwalls, slopes, impoundments, drainages and natural drainage patterns, pits, ponds, dumps, shafts, adits, drill holes and leach pads. Describe the configuration of these features after final reclamation. Describe the rinsing and neutralization of leach pads associated with final decommissioning.

Describe how roads will be reclaimed. Road reclamation may include: regrading cut and fill sections, ripping the road surface with a dozer, topsoil replacement, construction of water bars, construction of traffic control berms or ditches, and reseeding.

Existing roads will not be reclaimed.

Roads constructed for this operation will be reclaimed. All of the roads constructed will be in areas with steep grades. During road construction, 12"-18" of topsoil will be stripped from the road and placed downgradient from edge of the road. If additional material requires removal to flatten the road, this material will be placed between the downgradient edge of the road and the stockpiled topsoil. The road will then be paved with 6"-12" of aggregate road base. A small ditch will be created between the stockpiled soil and the road to convey runoff from the road. For reclamation, the stockpiled soil will be replaced over the top of the road with a track hoe. The roads will then be "ripped" with a bulldozer a minimum of two feet to reduce compaction, then reseeded. After reseeding, entrances and exits to reclaimed roads will be blocked with boulders or rock berms.

Describe how highwalls will be reclaimed. Highwall reclamation may include: drilling and blasting, backfilling, regrading, topsoil replacement, and reseeding.

Each year, the quantity of rock required for the project will be produced through operating the quarry. At the end of each year's operation, highwalls in the quarry will be left at a slope of no steeper than 1H:1V. Due to the location of the quarry, high up on the side of a mountain, topsoiling and reseeding is not practical.

Describe how slopes will be reclaimed. Slope reclamation may include: re-grading to a 3 horizontal : 1 vertical (3h:1v) configuration, topsoil replacement, contour ripping, pitting, and reseeding.

In the quarry area, slopes will be left no steeper than 1H:1V. Due to the location of the quarry, high up on the side of a mountain, topsoiling and reseeding is not practical.

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In the rock processing area, slopes steeper than 4H:1V are not anticipated. With the exception of the area to which the City of Eureka has been granted an easement by Chief Consolidated Mining (Attachment 6) for the purpose of storage of Institutional Controls materials, the rock processing area will be reclaimed as follows:

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- The entire area will be "ripped" with a bull dozer to a depth of two feet.
- Next, a minimum of twelve inches of topsoil will be placed over the entire area.
- Next, the entire area will be "ripped" to a depth of six inches.
- The entire area will be reseeded.

Describe how impoundments, pits and ponds will be reclaimed. Include the final elevations and final disposition of the drainage in and around the impoundment. If the impoundment, pit, or pond is intended to be left as part of the post-mining land use, then an agreement with the land managing agency/owner is required. Structures to remain must be left in a stable condition.

The proposed operation does not include the use of impoundments, pits, ponds or structures.

Include the final size of the impoundment, pit, pond in acre-feet of storage and the capacity of the spillway to safely pass storm events.

The proposed operation does not include the use of impoundments, pits, ponds or structures.

Impoundments, pits, and ponds, which are not approved as part of the post mining land use shall be reclaimed, free draining, and the natural drainage patterns restored.

The proposed operation does not include the use of impoundments, pits, ponds or structures.

Describe how drainages will be reclaimed. Drainage reclamation would include: the reestablishment of a natural drainage pattern which fits in with the upstream and downstream cross-section of existing drainage in the vicinity of the disturbance; the reestablishment of a stable channel in the reclaimed reach of channel, using the necessary armoring to prevent excessive erosion and downstream sedimentation.

It is not anticipated that natural drainages will not be impacted by the proposed operation. A rock check dam will be placed in the ephemeral stream downgradient of the operation to slow the flow of the stream should it flow. The purpose of the check dam is to collect any sediment that may have collected in the runoff from the permitted area. At the end of the operations, the rock check dam will be removed. In addition, any sediment that may have collected upstream of the check dam will be removed and used as topsoil for the reclamation of the rock processing area.

Include cross-sections and profiles of reestablished channels to demonstrate compatibility with existing drainage characteristics.

Natural drainages will not be impacted by the proposed operation.

Describe how waste dumps will be reclaimed. Waste dump reclamation may include regrading to a 3h:1v configuration, topsoil replacement, mulch or biosolids applications, contour ripping or pitting, and reseeding. Characterization of the physical and chemical nature of the waste dump materials should be provided.

Waste rock generated during the operation will be left in the quarry area and regarded to slopes of no steeper than 3H:1V.

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Describe how shafts and adits will be reclaimed. Reclamation of shafts may include: backfilling, installation of a metal grate, installation of a reinforced concrete cap, topsoil replacement and reseeding. Reclamation of adits may include: backfilling, installation of a block wall, installation of a metal grate, topsoil replacement and reseeding.

The proposed operation does not include the use of shafts or adits.

Describe how drill holes will be reclaimed. Drill hole reclamation must be consistent with the rules for plugging drill holes (R647-4-108). Reclamation of plugged drill holes may include topsoil replacement and reseeding.

It is not planned to drill any holes other than those used for blasting. Should any holes be drilled that are not consumed by blasting, they shall be plugged in accordance with Utah Administrative Rule. No reclamation of drill holes is planned.

Describe how tailings areas will be reclaimed. Tailings reclamation may include: dewatering, neutralization, placement of cap materials, placement of subsoil materials, topsoil replacement and reseeding. Characterization of the physical and chemical makeup of the tailings material should be provided.

The proposed operation does not include the use of tailings areas.

Describe how leach pads will be reclaimed. Reclamation of leached materials may include: neutralization or leached materials, rinsing of leached materials, dewatering leached materials, regrading slopes of leached materials to 3h:1v, extending pad liners, placement of capping materials, placement of subsoil materials, mulch or biosolids application, topsoil replacement and reseeding. Characterization of the physical and chemical makeup of the leached materials should be provided. Post closure monitoring and collection of drain down fluids should also be addressed.

The proposed operation does not include the use of leach pads.

NOTE: The Minerals Rules require overall highwall angles of no more than 45 . at final reclamation unless a variance is granted. All dump or fill slopes should be left at an angle of 3h:1v or less. Any slopes steeper than 3h:1v must be reclaimed using state-of- the-art surface stabilization technology. Pit benches exceeding 35 feet in width should be topsoiled, or covered with fines, and revegetated.

Describe the final disposition of any stockpiled materials on site at the time of final reclamation.

All stockpiled aggregate products will be consumed by the project or will be relocated for use in maintaining the completed project. Stockpiled topsoil shall be used in reclamation.

110.3 - Surface facilities to be left

Describe any surface facilities which are proposed to remain on-site after reclamation (buildings, utilities, roads, drainage structures, impoundments, etc.). Describe their post-mine application. Justification for not reclaiming these facilities must be included in the variance request section.

No surface facilities will be left except for roads which existed prior to the operation.

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110.4 - Treatment, location and disposition of deleterious materials

Describe the nature and extent of any deleterious or acid forming materials located on-site. Describe how these materials will be neutralized, removed, or disposed of on site. Describe how buildings, foundations, trash and other waste materials will be disposed of.

The only deleterious material that may be stored on site is fuel, which will be consumed at the end of the project.

No acid forming material will be located on-site during the project. No buildings, foundations, trash, or other waste materials will be located on-site.

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110.5 - Revegetation planting program and topsoil redistribution

Describe the revegetation tasks to be performed in detail. For example, will ripping, mulching, fertilizing, seeding and scarifying of these areas be performed and if so, how will this be accomplished? Correlate this information with the Reclamation Treatments Map.

a) Soil Material Replacement

In order to reestablish the required ground cover, one to two feet (depending on underlying material) of suitable soil material usually has to be redistributed on the areas to be reseeded. If the stockpiled soil isn't sufficient for this, soil borrow areas will need to be located. Describe the volume of soils and approximate depth of soil cover to be used in reclamation. Describe the source of these soils and provide an agronomic analysis of the soils. If soils will not be used describe the alternative material or amendments to be applied in lieu of soils. Describe the methods used to transport and place soils.

The rock processing area (12.6 acres) will be revegetated at the end of the project by. Twelve inches of topsoil will be placed across this area for the revegetation. The primary source for the topsoil will be topsoil stockpiled from stripping approximately 7.6 acres of the rock processing area. In addition to these soils, approximately 2,000 yards of topsoil is stockpiled at the south end of the rock processing area from borrow operations conducted in this area during 2001 and 2002. Since these two sources combined will not be sufficient, a third source will also be required. As part of the Eureka Mills Superfund Site project operations, it is planned to operate a borrow pit adjacent and west of the rock processing area. It is estimated that 5,000 to 6,000 cubic yards of material from this area will need to be imported to the rock processing area. The soils in this area are similar to the materials in the rock processing area, according to the Soil Conservation Service Soils Map (see Attachment IV). Three samples from this area were collected and analyzed for pH, salinity, and organic matter. The results of these analyses are provided in the Table 1.

Table 1

Sample No.	pH	Salinity (dS/M)	Organic Matter (%)
B05-H41-PCS-D06	7.4	0.9	2.5
B05-H53-PCS-D06	7.3	0.8	2.1
B05-H81-PCS-D06	6.9	0.5	2.6

Sample collected on 10/7/04
Samples analyzed by Utah State University

In addition to the analysis, Utah State University indicated that this material is suitable for use as topsoil in this region.

Material imported from the adjacent borrow site will be required to meet the topsoil specifications contained in the Eureka Mills Superfund Site Remedial Action Work Plan (RAWP). These requirements include:

- Max. particle size of one inch
- pH range between 5-7
- Organic content between 5-20%

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Topsoil must be analyzed for the properties and at the frequencies indicated in the Table 2.

Table 2

Property	Frequency	Method
Grain size analysis	5,000 cubic yards	ASTM D 422
pH	5,000 cubic yards	ASTM D 4972
Organic content	5,000 cubic yards	ASTM D 2974
SAR - Sodium Adsorption Ratio	5,000 cubic yards	USDA Handbook 60
Electrical Conductivity	5,000 cubic yards	USDA Handbook 60

SAR and Electrical Conductivity tests must be conducted by a laboratory that is a member of the North American Proficiency Testing Program. Also note that the recommendations from an approved laboratory supercede pH and organic content requirements listed in Table 1.

Stockpiled topsoiled will be spread across the rock processing area with a bulldozer. Imported topsoil material will be transported using 8-12 yard trucks, dumped in the rock processing area and spread using a bulldozer. After the topsoil has been spread, the area will be "ripped" with a bulldozer as described in Section 110.2 of this permit.

Roads constructed for this operation will receive topsoil replacement. During road construction, 12"-18" of topsoil will be stripped from the road and stockpiles on the downgradient edge of the road. Once the project is completed, stockpiled soil will be replaced over the top of the road using a bulldozer and then "ripped", as described in Section 110.2 of this permit.

b) Seed Bed Preparation

Describe how the seedbed will be prepared and equipment to be used. The Division recommends ripping or discing to a minimum of 12 inches and leaving the seed bed surface in as roughened condition as possible to enhance water harvesting, erosion control and revegetation success. Compacted surfaces such as roads and pads should be deep ripped a minimum of 18 inches.

Once all materials and equipment have been removed, the area will be ripped with a bulldozer as described in Section 110.2 of this permit.

c) Seed Mixture - List the species to be seeded:

Provide a seed mix listing adaptable plant species and the rate of seeding that will be upon the areas to be reclaimed. Keep the proposed post-mining land use in mind when developing seed mixes.

Species	PLS Pounds Per Acre
Streambank wheatgrass (Agropyron riparium)	3.25
Bluebunch wheatgrass (Agropyron spicatum)	3.5
Green needlegrass (Stipa viridula)	3.0
Indian ricegrass (Oryzopsis hymenoldes)	3.0
Sandberg bluegrass (Poa sandbergil)	0.5
Sheep fescue (Festuca ovina)	0.75
Slender wheatgrass (Agropyron trachycaulum)	3.0
Western wheatgrass (Agropyron smithli)	3.0

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d) Seeding Method

Describe method of planting the seed. The Division recommends planting the seed with a rangeland or farm drill. If broadcast seeding, harrow or rake the seed 1/4 to 2 inch into the soil. Fall is the preferred time to seed.

Seeding method will be broadcast with a spin spreader or hand casting. Seed shall be uniformly raked into the soil.

e) Fertilization

Describe fertilization method, type(s) and application rate (if needed).

Fertilization, if conducted, will be based on recommendation of a agronomist or qualified scientist after review of the seed mix and soil data and be completed in accordance with the requirements of Attachment VI. Based on our experiences to date, we do not anticipate the need for fertilization.

f) Other Revegetation Procedures

Please describe other reclamation procedures, such as mulching, biosolids application, irrigation, hydroseeding, etc., that may be planned.

Mulching and/or biosolid application, if conducted, will be completed in accordance with the requirements of Attachment VI.

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Attachment I

VIII. Rule R747-4-112 VARIANCE

The Permittee / Operator may request a variance from Rules R647-4-107 (Operation Practices), R647-4-108 (Hole Plugging), and R647-4-111 (Reclamation Practices) by submitting the following information:

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1.11 the rule(s) which a variance is requested from; (rule number and content)

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A variance is requested from Rule R647-4-111 (Reclamation Plan), Section 110.2 – Reclamation of roads, highwalls, slopes, leach pads, dumps etc.

1.12 a description of the specific variance requested and a description of the area affected by the variance request; show this area on the Reclamation Treatment Map(s).

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As shown in Figures 5 and 5a of Attachment II and Attachment VII, an Easement has been granted by Chief Consolidated Mining Company in favor of the City of Eureka, UT for a portion of the rock processing area at the Homansville Site. A legal description of the affected area is provided on Figure 5a. It is request the affected area be reclassified for Industrial Use for future post mine land use as indicated in Section VII of this document.

1.13 justification for the variance;

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The affected area, for which an easement has been granted by Chief Consolidated Mining in favor of the City of Eureka (Attachment VII), will be used by the City for the storage of topsoil and roadbase materials. Upon completion of the remedial action at the Eureka Mills Superfund Site the EPA will leave the city 20,000 cubic yards each of the topsoil and roadbase products. These materials will be used by the city to support future Institutional Control requirements.

1.14 alternate methods or measures to be utilized in the variance area.

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No alternative methods of measures will be utilized in the variance area. As an Industrial Use classification the area will be left in its current condition. Topsoil and roadbase aggregate will be stockpiled on the compacted subgrade soils. Operation of heavy equipment for materials management and loadout operations preclude the restoration of this area.

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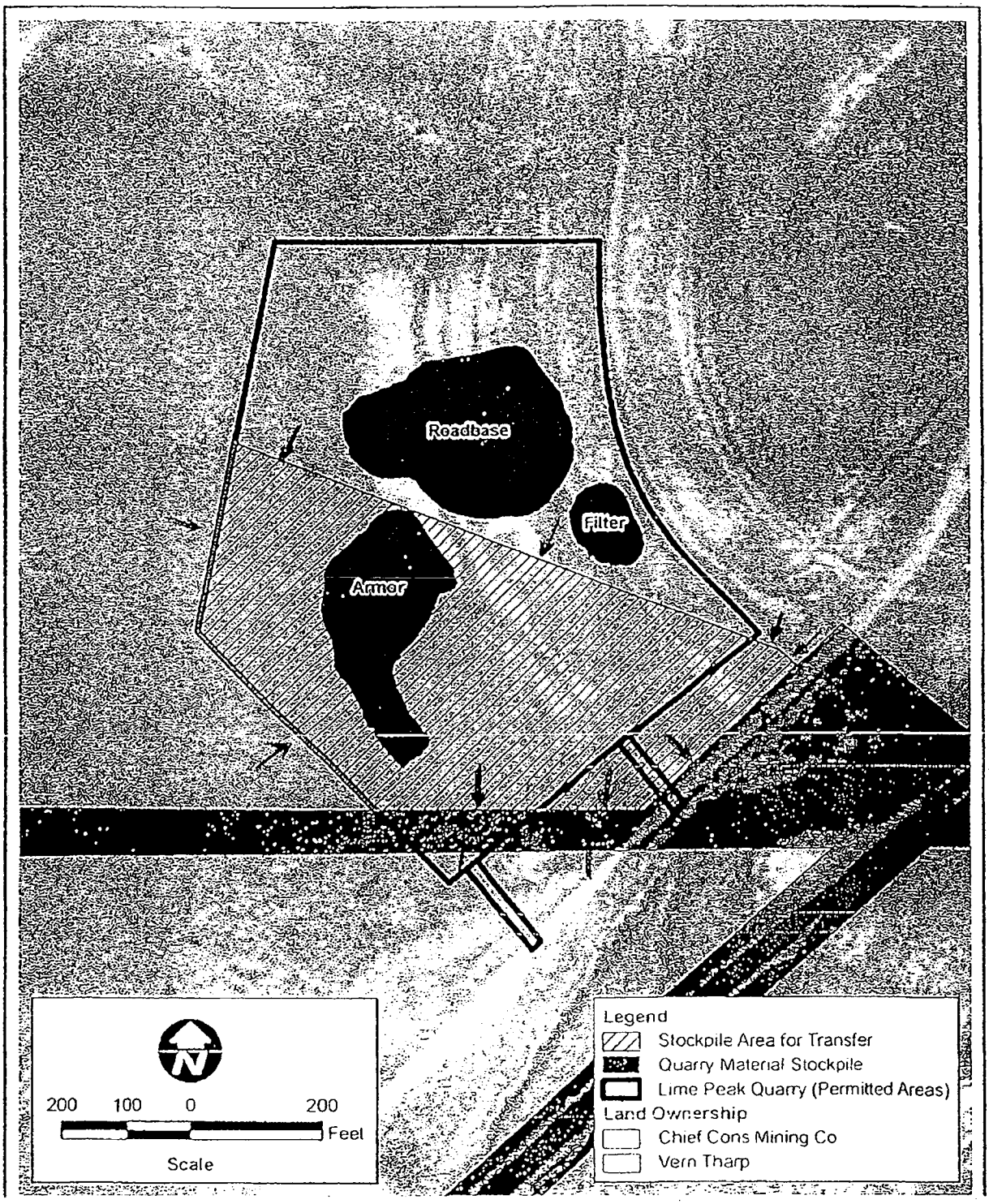

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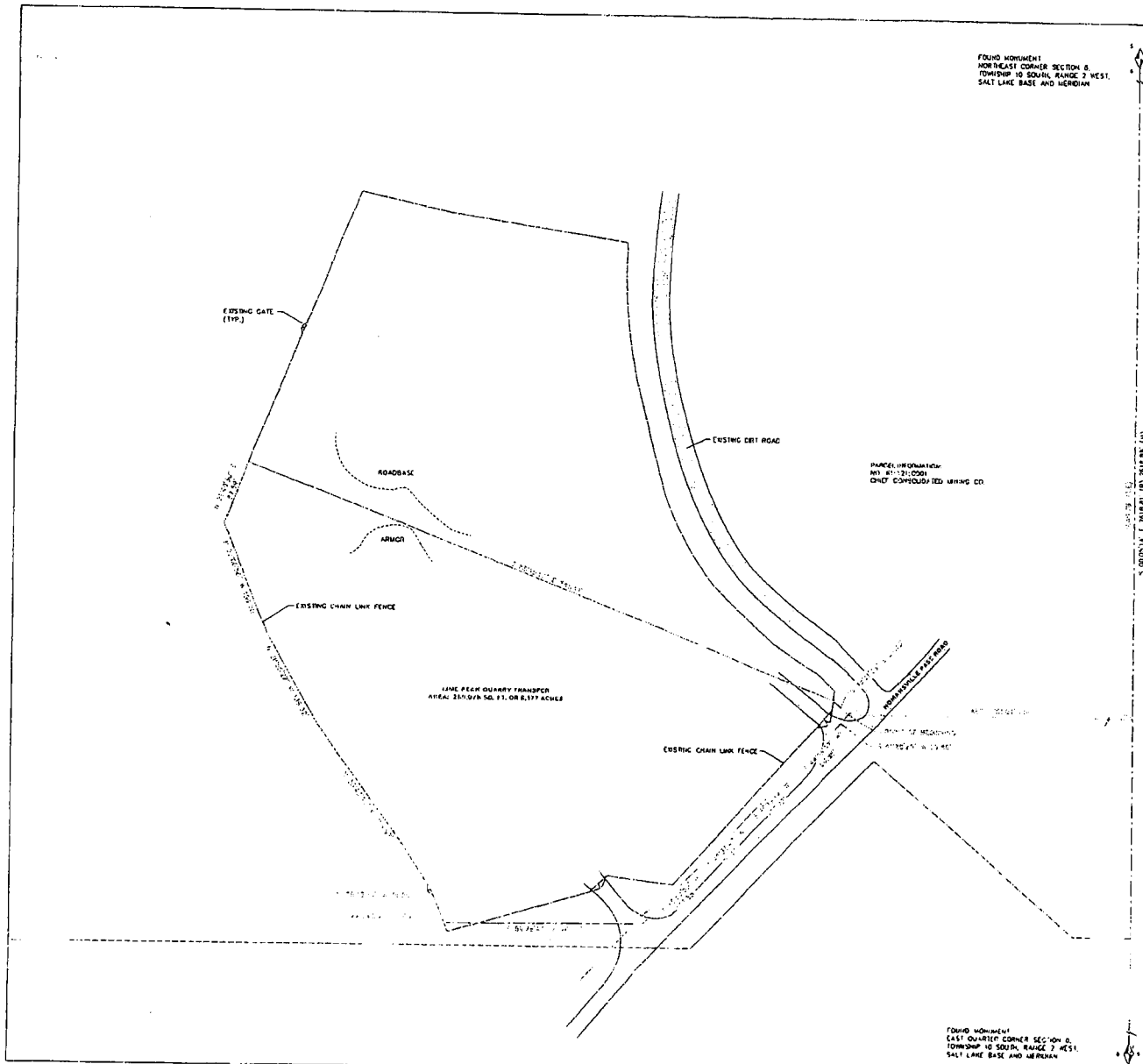
HDR

Stockpile Area for Transfer

Eureka Mills Superfund Site
Eureka, UT

DATE
September 2009

FIGURE
8



CERTIFICATE OF SURVEY:

I, RICHARD W. MILLER, REGISTERED LAND SURVEYOR, STATE OF UTAH, LICENSE NUMBER 155641, CERTIFY THAT I HAVE SUPERVISED A SURVEY ON THE GROUND AS SHOWN HEREON.

REGISTERED LAND SURVEYOR No. 155641 RICHARD W. MILLER 12-4-09 STATE OF UTAH

DATE: DECEMBER 3, 2009

RICHARD W. MILLER, L.S.

DESCRIPTION:

A PART OF THE NORTHEAST QUARTER OF SECTION 8, TOWNSHIP 10 SOUTH, RANGE 2 WEST, SALT LAKE BASE AND MERIDIAN, UTAH COUNTY, STATE OF UTAH, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE NORTH LINE OF HOMANSVILLE PASS ROAD, SAID POINT BEING SOUTH 00°05'14" EAST 1040.76 FEET ALONG SECTION LINE AND WEST 701.04 FEET FROM THE NORTHEAST CORNER OF SECTION 8, TOWNSHIP 10 SOUTH, RANGE 2 WEST, SALT LAKE BASE AND MERIDIAN, AND RUNNING THENCE ALONG SAID NORTH LINE OF HOMANSVILLE PASS ROAD THE FOLLOWING FIVE COURSES: (1) THENCE SOUTH 41°29'29" WEST 29.86 FEET; (2) THENCE SOUTH 44°56'37" WEST 80.55 FEET; (3) THENCE SOUTH 43°19'19" WEST 107.92 FEET; (4) THENCE SOUTH 45°33'47" WEST 91.12 FEET; (5) THENCE SOUTH 45°50'53" WEST 103.55 FEET; THENCE LEAVING SAID NORTH LINE OF HOMANSVILLE PASS ROAD, SOUTH 85°26'46" WEST 265.92 FEET; THENCE NORTH 2°29'53" WEST 38.20 FEET; THENCE NORTH 26°18'10" WEST 16.58 FEET; THENCE NORTH 35°43'48" WEST 254.97 FEET; THENCE NORTH 28°55'23" WEST 136.92 FEET; THENCE NORTH 22°00'56" WEST 156.70 FEET; THENCE NORTH 21°40'30" EAST 87.59 FEET; THENCE SOUTH 68°45'17" EAST 845.14 FEET; THENCE SOUTH 48°31'35" EAST 271.3 FEET, MORE OR LESS, TO THE POINT OF BEGINNING.

CONTAINS: 269,078 SQ. FT., OR 6.177 ACRES, MORE OR LESS, AS DESCRIBED.

NARRATIVE:

1. THE PURPOSE OF THIS SURVEY IS TO LOCATE AND SURVEY THE ABOVE PROPOSED PARCEL OF LAND.

2. THE BASIS OF BEARING USED FOR THIS SURVEY IS AS SHOWN ON THIS PLAT FROM FOUND MONUMENTS AS LOCATED IN THE FIELD.

GRAPHIC SCALE

(IN FEET)
1 inch = 80 ft.

NO.	DATE	BY	REVISION

REVISIONS

A BOUNDARY SURVEY FOR:
SHAW ENVIRONMENTAL
NE 1/4 SECTION 8, TOWNSHIP 10 SOUTH, RANGE 2 WEST, S.L.B. & M.

LIME PEAK QUARRY BOUNDARY
EUREKA CITY, UTAH COUNTY, UTAH

DATE DECEMBER 3, 2009 Figure 8a JOB NO 07224

PREPARED BY MILLER ASSOCIATES, INC.
PROFESSIONAL LAND SURVEYORS PHONE 801-975-1083 FAX 375-1081
2225 WEST CALIFORNIA AVENUE, SUITE 101 SALT LAKE CITY, UTAH, 84104

ENT 47559:2010 PG 1 of 3
RODNEY D. CAMPBELL
UTAH COUNTY RECORDER
2010 Jun 09 8:32 am FEE 14.00 BY SW
RECORDED FOR YOUNG, SHERMAN

WHEN RECORDED, PLEASE RETURN TO:

SHERMAN C. YOUNG
IVIE & YOUNG
226 WEST 2230 NORTH
PROVO, UT 84604

GRANT OF EASEMENT

This Grant of Easement is executed by Chief Consolidated Mining Company, an Arizona corporation (hereinafter "Chief"), in favor of the Town of Eureka, a political subdivision of the State of Utah, (hereinafter "the Town") on this 25th day of May 2010.

RECITALS

WHEREAS, Chief has entered into a Stipulation Modifying Consent Decree (the "Stipulation") with the United States of America (the "United States") in Civil No. 2:04CV00891 BSJ, in the United States District Court for the District of Utah for the modification and amendment to a consent decree (the "Consent Decree") entered by the court on the 27th day of January 2005; and,

WHEREAS, among other provisions, the Stipulation provides for the modification and termination of certain obligations of Chief under the Consent Decree; and,

WHEREAS, in consideration of the modification of the Consent Decree as provided for in the Stipulation, Chief and the United States of America have agreed that Chief shall grant the Town an easement for a term of twenty-five years for the purposes, and over the property, described herein;

NOW THEREFORE, in consideration of the recitals herein, the modification to the Consent Decree, and pursuant to Chief's obligations set forth in the Stipulation, Chief Consolidated Mining Company hereby grants the Town of Eureka, a political subdivision of the State of Utah, an easement over and across the below described property, for a term of twenty-five years from the date of recordation of this Grant of Easement, for the purpose of storing, accessing, and removing; top soil, road base material, and other aggregate materials, upon the below described property.

The property subject of the Grant of Easement is described as follows:

A PART OF THE NORTHEAST QUARTER OF SECTION 8, TOWNSHIP 10 SOUTH, RANGE 2 WEST, SALT LAKE BASE AND MERIDIAN, UTAH COUNTY, STATE OF UTAH, BEING MORE PARTICUARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE NORTH LINE OF HOMANSVILLE PASS ROAD, SAID POINT BEING SOUTH 00°05'14" EAST 1040.76 FEET ALONG SECTION LINE AND WEST 701.04 FEET FROM THE NORTHEAST CORNER OF SECTION 8, TOWNSHIP 10 SOUTH, RANGE 2 WEST, SALT LAKE BASE AND MERIDIAN, AND RUNNING THENCE ALONG SAID NORTH LINE OF HOMANSVILLE PASS ROAD THE FOLLOWING FIVE COURSES: (1) THENCE SOUTH 41°28'25" WEST 29.86 FEET; (2) THENCE SOUTH 44°58'37" WEST 60.55 FEET; (3) THENCE SOUTH 45°19'19" WEST 107.92 FEET; (4) THENCE SOUTH 45°33'47" WEST 91.12 FEET; (5) THENCE SOUTH 45°50'53" WEST 103.55 FEET; THENCE LEAVING SAID NORTH LINE OF HOMANSVILLE PATH ROAD, SOUTH 89°28'46" WEST 265.92 FEET; THENCE NORTH 22°29'53" WEST 38.20 FEET; THENCE NORTH 26°19'10" WEST 16.56 FEET; THENCE NORTH 35°43'48" WEST 254.97 FEET; THENCE NORTH 28°55'22" WEST 136.92 FEET; THENCE NORTH 22°00'56" WEST 156.70 FEET; THENCE NORTH 21° 40'30" EAST 87.59 FEET; THENCE SOUTH 68°45'17" EAST 845.14 FEET; THENCE SOUTH 48°31'35" EAST 27.13 FEET, MORE OR LESS TO THE POINT OF BEGINNING.

CONTAINS: 269,078 SQ. FT., OR 6.177 ACRES, MORE OR LESS, AS DESCRIBED.

DATED May 25 2010

CHIEF CONSOLIDATED MINING COMPANY,
an Arizona corporation

By: GORDON BLANKSTEIN
Its: Chief Executive Officer

PROVINCE OF BRITISH COLUMBIA RJK
~~STATE OF~~ CANADA)
: §
~~COUNTY OF~~ _____)

On this 25th day of May, 2010, personally appeared before me, GORDON BLANKSTEIN, who being duly sworn did say that he is the CHIEF EXECUTIVE OFFICER of CHIEF CONSOLIDATED MINING COMPANY, the corporation that executed the foregoing instrument, and acknowledged to me that the foregoing instrument was signed on behalf of said corporation by authority of a resolution of its Board of Directors, and that said GORDON BLANKSTEIN duly acknowledged to me that said corporation executed the same.

Robert J. King
NOTARY PUBLIC

ROBERT JAMES KING
Barrister and Solicitor
1800 - 999 West Hastings Street
Vancouver, B.C. V6C 2W2
Tel: (604) 682-4993

RJK